

Mechanical Waves Practice problems – Show K-U-E-S in the space provided.

1. Harry is playing on a swing set at the park. It takes 17.3 seconds for him to swing back and forth 5 times. What is the swing's period?
2. What is the frequency of a wave that occurs 278 times every 20 seconds?
3. The lowest frequency that the average human can hear is 20 Hz. This sound wave travels at a speed of 331 m/s through the air. What is the wavelength of this sound wave?
4. A 5 anti-node standing wave is created in a 10 m wire. What is the wavelength of this standing wave?
5. Cicadas produce a buzzing sound wave that has a wavelength of 2.69 m. The sound waves travel at 346 m/s. What is the frequency of the cicadas buzzing? What is the period of the buzzing? What is a cicada?
6. A large pipe organ produces a 10.6 m long wave. The speed of the sound wave is 340 m/s. What is the frequency of this musical note?
7. A wave with a frequency of 60 Hz travels through the vulcanized rubber of your car tires with a wavelength of 0.9 m. How fast is this wave travelling through your tires?
8. The same wave passes into the steel frame of your car and its wavelength increases to 85.5 m. How fast is the wave now travelling in your car's frame?